CHARGE NUMBER: 2105

PROJECT TITLE: Filter Development

PROJECT LEADER: W. A. Nichols

PERIOD COVERED: August, 1984.

I. Filter Development - FML (W. Nichols)

Objective:

Develop the technology required to manufacture filters from FML polypropylene tow.

Status:

Machine efficiency testing was performed. Two bales of tow were evaluated at 100 m/min. Efficiency was monitored with and without hardener application. Target efficiency was 50%. Results showed the following:

	Machine Efficiency	
Bale No.	Hardened	Unhardened
T471-003	69%	74.6%
T471-006	36.8%	60.4%

Deviation from target efficiency on bale T471-006 was caused by unusual amounts of unfibrillated fiber in the tow band which led to rollwraps on the plugmaker. A modified feed roll is being made to eliminate the problems.

Foamed adhesive application was successfully evaluated as an alternate method for fiber bonding. Less adhesive (14% vs. 25%) was required with this technique. As this method coats most of the fiber surface, subjective and analytical testing will be performed versus sprayed adhesive application.

Subjective evaluation of all qualified hardeners was performed. Results are being analyzed. Further testing will be done with Pakistan tobacco.

The feasibility of using FML material as the inner filter on a Lark dual filter is being tested. Samples are being prepared for subjective and analytical testing.

Plans:

Demonstrate acceptable process for plugmaking. September 1984

II. Tobacco Extrusion (R. Thesing)

Objective:

To develop an extruded foam tobacco product.

Status:

Process

Both the microwave dryer and the plenum dryer were evaluated. Under the first configuration, the extrudate issued from the die, was transported with air across the plenum, and then collected for OV determinations. The plenum dryer is capable of transporting the product and reducing its OV by 1%. When the product was then passed through the microwave cavity, it issued at 19% OV (another 2% reduction).

The microwave was more efficient when the extrudate issued from the die and entered the microwave first. (OV reduction of 3.4%). A higher wattage generator (6kw) will be tested to further dry the product to the desired 15-16% OV.

The new mixer and lift mechanism has been installed and is working satisfactorily.

The second test at Baker Perkins on the Twin Screw extruder is set for the week of September 10th.

Product

Initial testing of the windup rolls and tensioning unit is underway. Efforts are being directed to produce a uniform length of the product, dry it off line, and then paper wrap and machine tip for subjective evaluations by the flavor panel.

Plans:

Complete prototype extrusion line	September 1984
Produce a subjectively acceptable cigarette	Continuous

III. Menthol on Foil (G. Patron)

Objective:

To determine the commercial acceptability of mentholated pack foil.

Status:

Mentholated foil for the 4th and final B&H Menthol POL was made. Test cigarettes were produced at a target level of 86 mg per pack.

Cigarettes were made from filler with menthol contamination at 7 and 10%. Fillers and cigarettes were submitted for menthol analysis.

A higher mechanical drive ratio was installed on the Rothmans Applicator to allow higher flow rate for MUL Menthol application. The modified drive system will now permit menthol application of up to 9 mg per cigarette using the conventional 5 3/32" x 30 lb. foil for MUL cigarettes.

The PM designed applicator was received. Electrical installation is being completed by Engineering.

Plans:

Evaluate PM Applicator September 1984

Walt Nichols

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